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Declaration under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

[Continued on next page]

(54) Title: HIGH FREQUENCY ULTRASOUND DETECTION USING POLYMER OPTICAL-RING RESONATOR

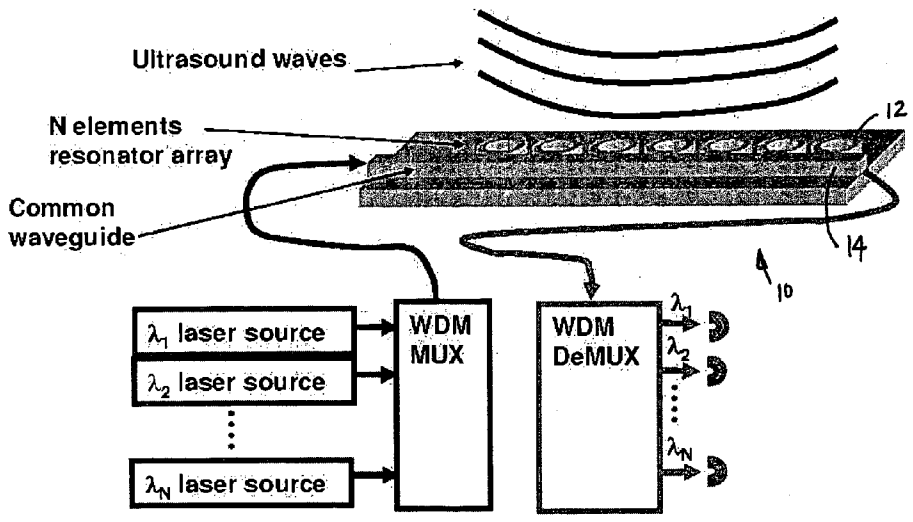


FIG. 18

(57) Abstract: A polymer waveguide resonator device for high-frequency ultrasound detection having a optical resonator (12) coupled to a straight optical waveguide (14) which serves as input and output ports Acoustic waves irradiating the waveguide induce strain modifying the waveguide cross-section or other design property As a consequence, the effective refractive index of optical waves propagating alon the ring is modified The sharp wavelength dependence of the high Q-factor resonator enhances the optical response to acoustic strai High sensitivity is demonstrated experimentally in detecting broadband ultrasound pulses from a 10MHz transducer

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A. CLASSIFICATION OF SUBJECT MATTER
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USPC: 385/7,13
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 385/7,13,30,32,50

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
USPTO: EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,091,983 A (LUKOSZ) 25 February 1992 (25.02.1992), column 4 lines 45-64; column 10, line 44 through column 11, line 4.	1-35

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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